

REMARKS

In the Office Action mailed August 18, 2003, the allowance of Claims 1-15 and 17-20 was confirmed. Applicants had previously canceled Claim 16 in an Amendment filed March 17, 2003. Further, in the Office Action mailed August 18, 2003, Claims 21, 22, 24, 25 and 28-30 were rejected for alleged obviousness over Rupar in view of Ludwig et al. Claims 23, 26 and 27 were objected to, but indicated as being allowable if re-written in independent form. Claims 31-40 are non-elected due to a Response to a restriction requirement filed July 18, 2003.

The obviousness rejection of Claims 21, 22, 24, 25 and 28-30 is respectfully traversed. Rupar discloses a pop-up rotating stream sprinkler including a rotating distributor or rotor 80 rotatably mounted on a shaft 70 and enclosing a drum or stator 78. By reason of shearing of a viscous fluid between the fixed drum or stator 78 and the interior wall of the rotating distributor or rotor 80, effective breaking of the rotor 80 is achieved, thereby reducing its rotational speed from approximately 1800 rpm to a speed of between about $\frac{1}{4}$ rpm and about 12 rpm. The stated reason for this designed rpm reduction is to achieve maximum water throw while minimizing the undesirable "horse-tail" effects of fluid stream under rotation. See column 7, lines 45-49 of Rupar.

Ludwig et al. discloses a cleaning and passivating method for water distribution systems including irrigation systems (column 3, line 38) in which a chemical solution is circulated, surged, or maintained in static contact a sufficient period of time to loosen or remove scale or sediment. Thereafter, the cleaning solution is removed by flushing with passivated water, or by using air to evacuate the system, or by decanting the spent solution. See column 3, lines 54-56 of Ludwig et al.

The examiner contends it would have been obvious to one of ordinary skill in the art to have applied to the device of Rugar the method of removing water by providing pressurized air as allegedly taught by Ludwig et al. to prevent damage from freezing of left-over water. The examiner contends that the sprinkler of Rugar contains a detector in the form of a riser which extends when water is detected and a brake which prevents over-spinning of the turbine upon detection of pressurized water.

There is nothing in Rugar or Ludwig et al. which suggests the examiner's proposed combination of Rugar and Ludwig et al. Rugar uses a viscous damper to prevent over-spinning of rotor 80 to achieve maximum water throw and avoidance of undesirable "horse tail" effects of the fluid stream under rotation. Ludwig et al. is concerned with removing scale. Neither patent suggests the detection of "pressurized compressible fluid or a mixture of the pressurized compressible fluid and water" and upon detection of the same preventing over-spinning of the turbine. Even in the examiner's proposed combination, Rugar only detects water entering into the sprinkler.

Furthermore, Claim 21 has been amended to require preventing over-spinning of a turbine "connected to a gear train reduction" in each of the sprinklers. Support for this amendment to Claim 21 is found at page 4, line 16 of the application. Rugar has no gear train reduction whatsoever. In Rugar the telescoping inner housing 32 merely contains filter or screen 60, but no gear train reduction mechanism. Rotor 80 of Rugar spins freely at the top of the inner housing 32 and forms water into streams that are ejected from the sprinkler 10. Accordingly, withdrawal of the obviousness rejection of Claim 21 is requested, along with the withdrawal of the obviousness rejection of Claims 22, 24, 25 and 28-30 which depend, directly or indirectly, therefrom.

Claims 25 and 30 have been amended to be consistent with the amendment to Claim 21.

The present application is believed to be in condition for allowance, and notification to this effect is solicited.

Respectfully submitted,

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